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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/660,466 | 09/12/2000 | Dinesh Mody | FMT1P029 | 6579 |
| 7590 03/31/2006 | | | | |
| Alan W. Cannon Law Office Of Alan W. Cannon 834 South Wolfe Road Sunnyvale,, CA 94086 | | | EXAMINER ROANE, AARON F | |
| | | | ART UNIT 3739 | PAPER NUMBER |

DATE MAILED: 03/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|-----------------------------|--|
| Office Action Summary | Application No. 09/660,466 | Applicant(s) MODY ET AL. | |
| | Examiner Aaron Roane | Art Unit 3739 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) 48-50, 52, 54-56, 58-65, 68-75, 87 and 92-99 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 36-39, 57, 78, 82-84, 89, 90, 100, 101, 105 and 111-119 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims: Claims pending in the application are 36-40,50,52,54-65,68-75,78,82-84,87,89,90,92-101,105 and 111-119.

DETAILED ACTION

Claim Objections

Claims 111 and 112 have been objected to because of the following informalities:

Claims 111 and 112 depend from claim 78. Claim 111 recites “an antenna enclosure” while claim 112 further limits the “antenna enclosure”. However claim 78 does not positively recite an antenna. In order to provide an examination, the examiner will interpret the elongate energy delivery portion as comprising an antenna.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an

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international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 57, 100, 101, 113, 114 and 116-119 are rejected under 35 U.S.C. 102(e) as being anticipated by Sharkey et al. (USPN 6,126,682).

Regarding claims 57, 100, 101 and 113, Sharkey et al. disclose a system for ablating an interior tissue region of an organ or duct within a body of a patient comprising: an ablation tool including an elongated device (18) electrically coupled to a transmission line that is electrically coupled to a source of microwave energy (element 20 in figure 3A also see col. 15-17, particularly col. 15, lines 20-30) for delivering sufficient microwave energy to the elongate device to effect ablation of a tissue region within the interior of the organ or duct; and an introducer (the rigid and sharp trocar is then advanced through introducer 12, to pierce annulus fibrosus 122 and enter the disc, see figure 4) that is not connected to the source of microwave energy, said introducer having a proximal end, a sharpened distal end for penetrating through a wall of the organ or duct, and a lumen which is sized and dimensioned for slidable movement of the elongate therein, the elongate device being configured to be deployed into the interior of the organ or duct through the sharpened distal end of the introducer with a deployed shape that is substantially straight and at a skewed angular orientation relative to a longitudinal axis of the introducer, to orient the elongate device in a direction towards and substantially

parallel to an interior portion of the penetrated wall for producing a linear lesion at the tissue region of the penetrated wall which is targeted for ablation.

Regarding claim 114, Sharkey et al. disclose the claimed invention, see the portion defined by elements 16, 28 and 29 in figure 3A.

Regarding claim 116, Sharkey et al. disclose the claimed invention, see col. 5-23 and figure 3A and 4.

Regarding claim 117, Sharkey et al. further disclose a system that integrally provided the probe and the ablation tool, see entire reference.

Regarding claims 118 and 119, Sharkey et al. disclose a handle (12) proximally connected to said probe, and wherein longitudinal sliding of said ablation tool within said probe is facilitated via said handle and a biasing member (e.g. wire, hydraulic and electromagnetic in col. 12) configured to bias said ablation element from said substantially straight configuration to said bent configuration, see col. 11 and 12.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 36-39, 78, 82-84, 89, 90, 105, 111, 112 and 115 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharkey et al. (USPN 6,126,682) in view of Moss et al. (USPN 5,810,803).

Regarding 36, 37, 78, 111, 112 and 115, Sharkey et al. disclose a system for ablating an interior tissue region of an organ or duct within a body of a patient comprising: an ablation tool including an elongated device (18) electrically coupled to a transmission line that is electrically coupled to a source of microwave energy (element 20 in figure 3A also see col. 15-17, particularly col. 15, lines 20-30) for delivering sufficient microwave energy to the elongate device to effect ablation of a tissue region within the interior of the organ or duct; and an introducer (the rigid and sharp trocar is then advanced through introducer 12, to pierce annulus fibrosus 122 and enter the disc, see figure 4) that is not connected to the source of microwave energy, said introducer having a proximal end, a sharpened distal end for penetrating through a wall of the organ or duct, and a lumen which is sized and dimensioned for slidable movement of the elongate therein, the

elongate device being configured to be deployed into the interior of the organ or duct through the sharpened distal end of the introducer with a deployed shape that is substantially straight and at a skewed angular orientation relative to a longitudinal axis of the introducer, to orient the elongate device in a direction towards and substantially parallel to an interior portion of the penetrated wall for producing a linear lesion at the tissue region of the penetrated wall which is targeted for ablation. Although Sharkey et al. disclose an elongate microwave energy radiator and this is certainly an implication of a microwave antenna, they fail to explicitly disclose an elongated antenna device electrically coupled to a coaxial transmission line that is electrically coupled to a source of microwave energy for delivering sufficient microwave energy to the antenna device to effect ablation of a tissue region within the interior of the organ or duct, the coaxial transmission line including an inner conductor, an outer conductor and a dielectric medium disposed between the inner and outer conductors, the antenna device including an antenna that is coupled to a distal end of the inner conductor of the coaxial transmission line and an enclosure that encapsulates the antenna with a dielectric material. Moss et al. disclose a helical coil microwave antenna device and teach that the microwave antenna (206) is connected to the power source via a coaxial transmission line that is electrically coupled to a source of microwave energy, the coaxial transmission line including an inner conductor (224), an outer conductor and a dielectric medium disposed between the inner and outer conductors (although the outer conductor and the dielectric aren't numbered, the entire reference is littered with references to the coaxial transmission line), the antenna device including an antenna (206) that is coupled to a

distal end of the inner conductor of the coaxial transmission line and an enclosure that encapsulates the antenna with a dielectric material in order to provide microwave radiative energy to the tissue. Additionally, Moss et al. also disclose that the microwave antenna is encapsulated by a dielectric material (236 and 238) wherein “the material both fills and surrounds antenna coil (206) is typically a flexible dielectric material. Suitable flexible dielectric materials include, but are not limited to, materials such as silicone,” see col. 5, lines 26-49. Sharkey et al. also disclose a shape memory material within the elongate energy delivery portion, see col. 13 and 14. Finally, both Sharkey et al. and Moss et al. disclose steering mechanisms, Sharkey et al. disclose steering capabilities in col. 11-12, Moss et al. disclose a steering mechanism (73) associated with the proximal end of the tool which, upon manipulation, is configured to cause at least a portion of the antenna device to assume an angular orientation relative to a longitudinal axis of the tool, see col. 12, lines 11-13 and figure 7. Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to modify the invention of Sharkey as taught by Moss et al., to provide the microwave antenna with a connection to the power supply via a coaxial transmission line that is electrically coupled to a source of microwave energy, the coaxial transmission line including an inner conductor, an outer conductor and a dielectric medium disposed between the inner and outer conductors, the antenna device including an antenna that is coupled to a distal end of the inner conductor of the coaxial transmission line and an enclosure that encapsulates the antenna with a dielectric material in order to provide microwave radiative energy to the tissue.

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Regarding claims 38 and 39, Sharkey et al. in view of Moss et al. disclose the claimed invention, see Sharkey et al. figures 3A and 4.

Regarding claims 82-84, Sharkey et al. disclose the claimed invention, see elements 16, 28 and in figure 3A.

Regarding claims 89 and 90, Sharkey et al. disclose a device capable of performing the claimed intended use and/or function, see figures 3A and 4.

Regarding claim 105, Sharkey et al. disclose the energy delivery portion is configured to produce an electromagnetic field that is concentrated on a side of the energy delivery portion, see element 43 in figure 5A and col. 15, lines 54-67.

Response to Arguments

It should be noted that Applicant did not provide arguments/remarks traversing the previously made rejections and highlighted that the claims have been amended.

Additionally, even if Applicant had provided arguments/remarks traversing the previously made rejections, these arguments would have moot in view of the new ground(s) of rejection.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Roane whose telephone number is (571) 272-4771. The examiner can normally be reached on Monday-Thursday 7AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A.R. *A.R.*
March 22, 2006

Roy D. Gibson
ROY D. GIBSON
PRIMARY EXAMINER